

**REMARKS****Claim Amendment**

Applicants note that M.P.E.P. sect. 608.01(p) states:

An application as filed must be complete in itself in order to comply with 35 U.S.C. 112. Material nevertheless may be incorporated by reference, *Ex parte Schwarze*, 151 USPQ 426 (Bd. Ape. 1966). An application for a patent when filed may incorporate "essential material" by reference to (1) a U.S. patent, (2) a U.S. patent application publication, or (3) a pending U.S. application, subject to the conditions set forth below.

The instant application incorporates by reference the co-pending U.S. Pat. App. No. 10/780,896, now scheduled to published as Pub. No. 2005/0087102.

**Amendment to Claims 1, 15, 21, 23 and 24**

Claims 1, 15, 21, 23 and 24 have been amended to correct an erroneous recitation that the refractive index of a refractive material is greater than about 1.8.

Applicants note that aluminum oxide  $\text{Al}_2\text{O}_3$  is included in a list of refractive materials in the co-pending U.S. Pat. App. No. 10/780,896. See page 12, line 15, page 14, lines 4-6 in conjunction with FIG. 12 and the original Claim 7. Refractive index of aluminum oxide is 1.63 - 1.68. See Exhibit A, enclosed herewith. (Exhibit A is page E-365 of the Handbook on Chemistry and Physics, 66<sup>th</sup> Ed. The appropriate entry is highlighted for the Examiner's convenience.)

Original Claim 1 of the co-pending U.S. Pat. App. No. 10/780,896 recites that the refractive index a refracting material is greater than about 1.8. However, original Claim 7 of the co-pending U.S. Pat. App. No. 10/780,896, dependent on Claim 1, recites  $\text{Al}_2\text{O}_3$ , a material having refractive index smaller than 1.8, among the materials from which the nanoparticles of the instant invention can be produced. This renders original Claims 1 and 7 contradictory. Examination of the specification of the co-pending U.S. Pat. App. No. 10/780,896, specifically of page 12, line 14, page 14, lines 4 - 6 and FIG. 12, which describes particles coated by aluminum oxide, indicates that it is the recitation in Claim 1 that the refractive index is greater than about 1.8 that is clearly erroneous.

Subject matter of original Claim 7 of the co-pending U.S. Pat. App. No. 10/780,896 is now included into new Claim 37, submitted by the present amendment to the instant application. Accordingly, Applicants amended Claims 1, 15, 21, 23 and 24 to correct the erroneous recitation of the refractive index.

#### Further Amendments

Claim 1 has been amended to more particularly point out and define the present invention.

Claim 4 has been amended to incorporate the subject matter of Claims 5 and 6, now cancelled.

Claim 7 has been amended to more particularly point out and define the present invention as claimed in Claim 1.

Claim 8 has been amended to incorporate the subject matter of Claims 9 - 14, now cancelled and to more particularly point out that the peak of absorption of the particles of the present invention can be adjusted from about 200 nm to about 750 nm. Support for this amendment is found on page 16, line 27 through page 17, line 1 of the instant application.

Claim 15 has been amended to incorporate the subject matter of Claims 16 - 20, now cancelled and to more particularly point out that the peak of absorption of the particles of the present invention can be adjusted from about 200 nm to about 750 nm. Support for this amendment is found on page 16, line 27 through page 17, line 1 of the instant application.

Claim 21 has been amended to more particularly point out and define the present invention.

Claim 23 has been amended to more particularly point out and define the present invention as claimed in Claim 21.

Claim 24 has been amended to more particularly point out and define the present invention.

Claim 27 has been amended to incorporate the subject matter of Claims 28 -33, now cancelled.

New Claim 36 is directed to the subject matter claimed by the original Claim 1 and original Claim 7.

New Claim 37 is directed to the subject matter claimed by the original Claim 1 and original Claim 7 as well as to the subject matter described on page 12, line 15 of the co-pending U.S. Pat. App. No. 10/780,896.

New Claims 38 and 39 are directed to the subject matter claimed by the original Claims 27 and 28 of the co-pending U.S. Pat. App. No. 10/780,896.

This amendment introduced no new matter.

### **Response to Claim Rejections**

#### **Claim Rejections Under Judicially Created Doctrine of Obviousness-Type Double Patenting**

The Examiner rejected Claims 1-7, 10, 13-25, 27, 29 and 30 of the instant application as obvious under judicially created doctrine of obviousness-type double patenting over Claims 1-8, 15 and 21 - 35 of the co-pending U.S. Pat. App. No. 10/780,896. The Examiner stated that the conflicting claims are substantially identical, but distinguishable by referring in the preamble to either electromagnetic radiation or ultraviolet radiation. The Examiner stated that particles capable of absorbing electromagnetic radiation are inherently capable of absorbing ultraviolet radiation.

Applicants believe that the present amendment and the amendment submitted concurrently in the co-pending U.S. Pat. App. No. 10/780,896 obviates the Examiner's rejection since the amended claims are directed to the subject matter distinguishable by the composition of the particles.

Reconsideration and withdrawal of the rejection are respectfully requested.

#### **Claim Rejection Under 35 U.S.C. §102(b) over U.S. Pat. No. 6,344,272**

Claims 1 - 33 are rejected as being anticipated by the U.S. Pat. No. 6,344,272 to Oldenburg *et al* (hereinafter, "Oldenburg"). The Examiner stated that Oldenburg teaches a core/shell particle capable of electromagnetic absorbing and that for all conductive materials, for certain spectral bands, the real part of the dielectric constant is negative. The Examiner further stated that while the refractive indices of the core and the shell materials are not explicitly reported, the such material exemplified by Oldenburg possess the refractive index of at least 1.8. The Examiner concluded that the limitations of the claimed invention are inherently met.

Applicants note that *not all* conductive materials possess a negative real part of the dielectric constant in at least some spectral band. Accordingly, this limitation is *not* inherently met by *any* conducting material and not every conducting material can be used in a radiation-absorbing particle of the present invention. In particular, not all materials listed by Oldenburg in column 6, lines 1-9 are suitable to practice the present invention.

Applicants further note that Oldenburg teaches a particle comprising at least one *non-conducting* core layer (column 3, line 39 - 41; column 5, lines 17 - 18 and 35 - 37) and a shell that can conduct electricity (column 4, line 67 - column 5, line 2; column 5, line 66 - column 6, line 9). The amended independent Claims 1, 21 and 24, however, are directed to a particle having a *conductive* core and a shell comprising either a conductive or a non-conductive material. It follows, therefore, that the amended Claims 1, 21 and 24 are novel over Oldenburg.

Reconsideration and withdrawal of the rejection are respectfully requested.

Claim Rejection Under 35 U.S.C. §103(a) over U.S. Pat. No. 6,344,272

The Examiner rejected Claims 28 - 30 as obvious over U.S. Pat. No. 6,344,272 (Oldenburg). The Examiner stated that although Oldenburg does not teach the specific structure in which the particles are to be embedded, it would have been obvious for one skilled in the art to do so because the substrate in which the particles are to be embedded is a result-oriented variation.

Claim 27 as amended captures the subject matter of Claims 28 - 30, now cancelled. Applicants submit that Claim 27 as amended is not obvious over Oldenburg. Indeed, for the reasons presented above, Oldenburg does not teach the invention of Claim 24 as amended, on which Claim 27 depends. Therefore, the modification of the teaching of Oldenburg suggested by the Examiner does not result in the invention Claimed in Claim 27. Therefore, the rejection of Claim 27 as amended as obvious over Oldenburg is improper.


Reconsideration and withdrawal of the rejection are respectfully requested.

**CONCLUSION**

In view of the above amendments and remarks, it is believed that all claims are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned.

Respectfully submitted,

HAMILTON, BROOK, SMITH & REYNOLDS, P.C.

By   
Alexander Akhiezer  
Registration No. 54,617  
Telephone: (978) 341-0036  
Facsimile: (978) 341-0136

Concord, MA 01742-9133

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